National Institute of Environmental Health Sciences

The influence of weather state on the incidence of preeclampsia and placental abruption in semi-arid areas

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Abstract:

BACKGROUND: Being close to the big deserts of the Sahara and Saudi Arabia, the Negev desert in the south of Israel is meteorologically defined as a semi-arid area. Purpose: To investigate the influence of meteorological factors typical for the semi-arid areas on the incidence of preeclampsia (PE) and placental abruption (PA). METHODS: The hospital records of women in confinement who had PE and/or PA between January 1, 1999 and December 31, 1999 were retrospectively reviewed. The current meteorological state was described by temperature, humidity, their overall differences and winds. Multivariate analysis, time series approach and Poisson regression are used. RESULTS: The incidence of PE and PA was increased during the periods of unstable weather. Strong winds were associated with increased frequency of PE ($p < 0.002$); desert wind of Sharav (specific atmospheric state and motion of big desert air volumes) increased incidence of PA ($p < 0.033$). Daily overall differences of temperature and humidity were correlated with PE ($p < 0.03$). An inverse correlation between humidity level and PA was obtained (p Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 0.000). Increase in PE incidence preceded sharp variations in temperature with an average of 3-day lag ($p < 0.003$). CONCLUSIONS: An ensemble of meteorological variables, specific for each disorder, affects frequency of PA and PE occurrence. Obstetricians working in semi-arid areas should be aware of the influence of unstable weather conditions on the incidence of PE and PA, especially, in the spring and autumn seasons.

Source: http://www.irog.net/archives

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Meteorological Factors, Temperature

Geographic Feature:

resource focuses on specific type of geography

Desert, Other Geographical Feature

Other Geographical Feature : semi-arid

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Israel, Negrev

Health Impact:

specification of health effect or disease related to climate change exposure

Developmental Effect

Developmental Effect: Reproductive

Medical Community Engagement:

resource focus on how the medical community discusses or acts to address health impacts of climate change

A focus of content

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Pregnant Women

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified